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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,807	05/31/2001	Peter V. Boesen	P03999US8	2090

22885 7590 02/18/2004

MCKEE, VOORHEES & SEASE, P.L.C.  
801 GRAND AVENUE  
SUITE 3200  
DES MOINES, IA 50309-2721

EXAMINER

HARVEY, DIONNE

ART UNIT	PAPER NUMBER
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2643

11

DATE MAILED: 02/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/870,807

Applicant(s)

BOESEN

Examiner

Dionne N Harvey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,721,783) in view of Bauman (US 6,048,305).

Regarding claim 1, Anderson teaches a method for hands free voice communications using a personal communication device comprising : sensing a bone conduction signal from a bone conduction sensor (12; also see column 26, lines 57-60); transmitting the sensed bone conduction signal from a transmitter(13) to a personal communication device (see column 5-6 lines 22-25 wherein Anderson teaches that the speech signals are picked up by the earpiece and transmitted to the RPU for processing. The RPU may include straight forward connections to a personal communication device); and processing the sensed bone conduction signal at the personal communication device to create a processed audio signal.

Anderson does not clearly teach that the sensor is disposed such that it is fitted to the contours of the posterior superior wall of the external auditory canal or that at

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least the posterior inferior wall of the auditory canal remains unobstructed to allow ambient sound into the external auditory canal and to avoid the occlusion effect.

In figures 1,2 and 4, and discussed in column 6, lines 30-40, Bauman teaches that an in-ear hands-free voice communication device may be constructed such that it is fitted to the contours of the posterior superior wall of the external auditory canal and that at least the posterior inferior wall of the auditory canal remains unobstructed. It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the housing structure in figure 1 or figure 4 of Bauman for the housing structure in figure 1 of Anderson (see Bauman reference, Column 4, lines 56-57 in which Bauman teaches allowing ambient sound into the external auditory canal and avoiding the occlusion effect; also see Column 6, lines 34-36).

Regarding claim 2, The combination of Anderson teaches that the personal communication device includes a PDA.

Regarding claim 3, in column 25, lines 4-7, Anderson teaches transmitting the processed audio signal from the personal communication device over a cellular transceiver.

Regarding claim 4, Anderson teaches transmitting the processed audio signal from a personal communication device or other communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 5, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 6, Anderson teaches a voice activation function (see claim 66).

2. Claims 7-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 5,721,783) in view of Bauman (US 6,048,305) and further in view of Kruger (US 5,692,059).

Regarding claims 7, 12, 13 and 19, as set forth in the rejections of claim 1, above, the combination of Anderson and Bauman teaches: an earpiece housing (22); sensing an air or bone conduction signal from a non-occluding air or bone conduction sensor (12) disposed within the external auditory canal and in a position proximate the posterior superior wall of the external auditory canal such that at least one wall of the external auditory canal remains unobstructed; transmitting the sensed air or bone conduction signal from a transmitter (13) located in an earpiece to a personal communication device; processing the sensed air or bone conduction signal at the personal communication device to create a processed audio signal; and a receiver (transceiver-13 functions as both transmitter and receiver). The combination of Anderson and Bauman fails to teach simultaneously transmitting signals from both an air sensor and bone conduction sensor.

In column 3, lines 40-48, Kruger teaches the combined use of a bone sensor and air sensor in an in-ear voice communication device and further teaches that the signal for each device is transmitted simultaneously (column 3, line 41-46). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Anderson, Bauman and Kruger, thereby using both an air and bone

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sensor for the earpiece of Anderson, for sensing a wider band of voice frequencies and for better speech intelligibility.

Regarding claim 8, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claim 9, Anderson teaches transmitting the processed signal from a personal communication device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 10, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 11, Anderson teaches a voice activation function (see claim 66).

Regarding claim 14, Anderson teaches that the personal communication device includes a PDA.

Regarding claims 15 and 20, in column 25, lines 4-7, Anderson teaches a cellular transceiver.

Regarding claims 16 and 21, Anderson teaches transmitting the processed signal from a personal communications device to a receiver(13) and to a speaker(15) disposed within the earpiece.

Regarding claim 17, in column 26, lines 39-50, Anderson teaches a voice recognition function.

Regarding claim 18, Anderson teaches a voice activation function (see claim 66).

***Response to Arguments***

Applicant's arguments filed 12/2/03 have been fully considered but they are not persuasive.

**No Motivation To Combine Anderson And Bauman References:**

The Applicant's argument is not persuasive since the Examiner has cited Specific Passages in the Bauman reference which provide the suggestion and motivation to combine said references. In Column 4, Lines 56-57, Bauman suggests the combining of his immediate invention with hearing aid circuitry, while in Column 6, Lines 30-40, Bauman further provides motivation to make such a combination. The Examiner's rejection is therefore, maintained.

**Neither Anderson nor Bauman teach a bone conduction sensor fitted to the contours of the posterior superior wall of the auditory canal:**

The Examiner holds the combination of Anderson and Bauman as proper. Said combination provides a bone conduction sensor, as taught by Anderson, mounted in the non-occluding housing, as taught by Bauman. Bauman clearly illustrates in the figures that said housing, which would contain the bone sensor of the claims, is *fitted* to the contours of the posterior superior wall of the auditory canal, as broadly claimed. The Examiner's rejection is therefore, maintained.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Schumaier (US 6,643,378)** teaches the application of a bone sensor adjacent the mastoid bone of user.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reached on Monday through Friday from 8:30am to 6:00pm.

**Any responses to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, DC 20231

**or faxed to:**

(703) 308-6306, for formal communications for entry

**Or:**



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(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

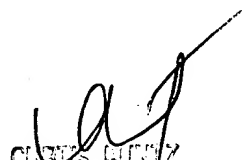
Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor(Receptionist)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

February 10, 2004

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2000